EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8557	delay$4 near4 (receive$4 adj signal)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 09:51
L2	182	decod$4 with 1	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 10:04
L3	19571	spread$5 adj3 (code sequence)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 10:05
L4	127	1 with 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 10:36
L5	0	dealy with (search adj window)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 10:36
L6	423	delay with (search adj window)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:45
L7	13	greater with 6	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 10:48
L8	33	equal with 6	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:00
L9	49	6.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:25
L10	0	synchonous adj2 clock	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:25
L11	10910	synchronous adj2 clock	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:26

EAST Search History

L12	98	3 and 11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:26
L13	12	3 same 11	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:30
L14	143	track$5 near4 earliest	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:31
L15	54	(interval delay period) with (search adj window)with(greater equal)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 11:46
L16	15	15 not (7 8)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:01
L17	15	1 with (time adj window)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:08
L18	19	1 with (search adj window)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:15
L19	7280	375/130-153.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:16
L20	1069	380/255.ccls. 380/268.ccls. 380/42. ccls. 380/287.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:21
L21	8334	19 20	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:21
L22	832	1 and 21	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:22
L23	44	(search adj window) and 22	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/05/22 12:22

US-PAT-NO:	6628675
DOCUMENT-IDENTIFIER:	US 6628675 B1
TITLE:	Symbol combiner synchronization after a jump to a new time alignment

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Detailed Description Text - DETX (12):

The deinterleaved symbols are subsequently provided to the Viterbi decoder 240 for further processing, as is well known in the art. In one embodiment, the deskew buffers 220A-220N are eight symbols deep, and the combiner time counter 224 is initialized to a state which is four symbols delayed from the finger time counter 208 of the finger **tracking the earliest** multipath signal.

Detailed Description Text - DETX (32):

At the slot boundary, the demodulation fingers and delay finger roll. Because the combiner time counter tracks the delay finger, the combiner time counter is "slammed" to 0. After the slot boundary, the combiner time counter begins **tracking the demodulation finger assigned to the earliest** arriving multipath instant of the preferred base station. This aligns the remote unit timing properly for reception of messages in its assigned slot.

Detailed Description Text - DETX (34):

FIG. 6 is a flow chart illustrating aspects of the invention which compensate for incorrect combiner time counter values. The process represented in FIG. 6 can be implemented in the remote unit depicted in FIG. 3 under the control of software or firmware, for example running on the controller. The process begins at block 400 when the remote unit is powered on. From block 400 flow continues to block 402 where the analog receiver chain is initialized. From block 402 flow continues to block 404, where the searcher searches all the possible PN offsets. Flow then continues to block 406 and fingers are assigned to the best multipath signals located by the searcher. Flow then continues to block 408 where the remote unit begins to decode the sync channel. From block 408 flow continues to block 410 where the combiner timer count is reset using the finger **tracking the earliest** multipath. In block 414, one finger is delayed 6.66 ms from those used in demodulation. This finger will not be used for demodulation. Flow continues to block 416.

11 19-26

1 25 32

US-PAT-NO: 6999719

DOCUMENT-IDENTIFIER: US 6999719 B2

TITLE: Symbol combining device for multi-path diversity

Brief Summary Text - BSTX (10):

An operation of a read pointer in the deskewer controlled by the symbol combiner is as follows. In most applications, a demodulation finger demodulating the first signal that arrives thereat (hereinafter, referred to as a predetermined demodulation finger) provides a reference timing for the symbol combiner. Waiting for a certain period of time (usually five symbols) after a symbol is written by the predetermined demodulation finger, if all of three demodulation fingers receive data, the combiner performs from all of the fingers the read operation. At this time, the positions of a pointer reading a symbol in the FIFOs are the same with those of other reading pointer, and a read pointer is increased by one after the read operation. The following read operation is carried out at a position corresponding to the increased read pointer. Delay times of the write pointer and the read pointer are fixed in the predetermined demodulation finger, and those of the other two demodulation fingers are changed by slewing and time tracking. Most time delays of the write pointer and the read pointer in the predetermined demodulation finger are associated with 5-symbol, but in due consideration of the situation where the predetermined demodulating finger is not **tracking the earliest** path the FIFO is designed to have a depth of 8-symbol.

Cl. 142.

US-PAT-NO: 6980803

DOCUMENT-IDENTIFIER: US 6980803 B2

TITLE: Using statistically ascertained position for starting synchronization searcher during diversity handover

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Brief Summary Text - BSTX (18):

Since maximum **delay of the received signal** from the mobile station is unknown, a longer **search window** may be used to cover the maximum possible round-trip propagation delay, which corresponds to the destination base station cell size. As an example, a base station cell having a ten kilometer radius would have a corresponding maximum round-trip propagation delay of approximately eighty microseconds. A typical search window used in the source base station is on the order of ten microseconds. However, the search window in the destination base station would need to be eight times longer in order to accommodate the 80 microsecond propagation delay for this ten kilometer radius cell. Such a long search window is undesirable because of the increased data processing and memory resources required to perform the larger number of search and demodulation operations associated therewith. This large number of operations means increased synchronization delays. A longer search window therefore lessens the ability of the destination base station to respond to changes in the radio channel which translates, ultimately, into increased bit errors in the RAKE receiver outputs.

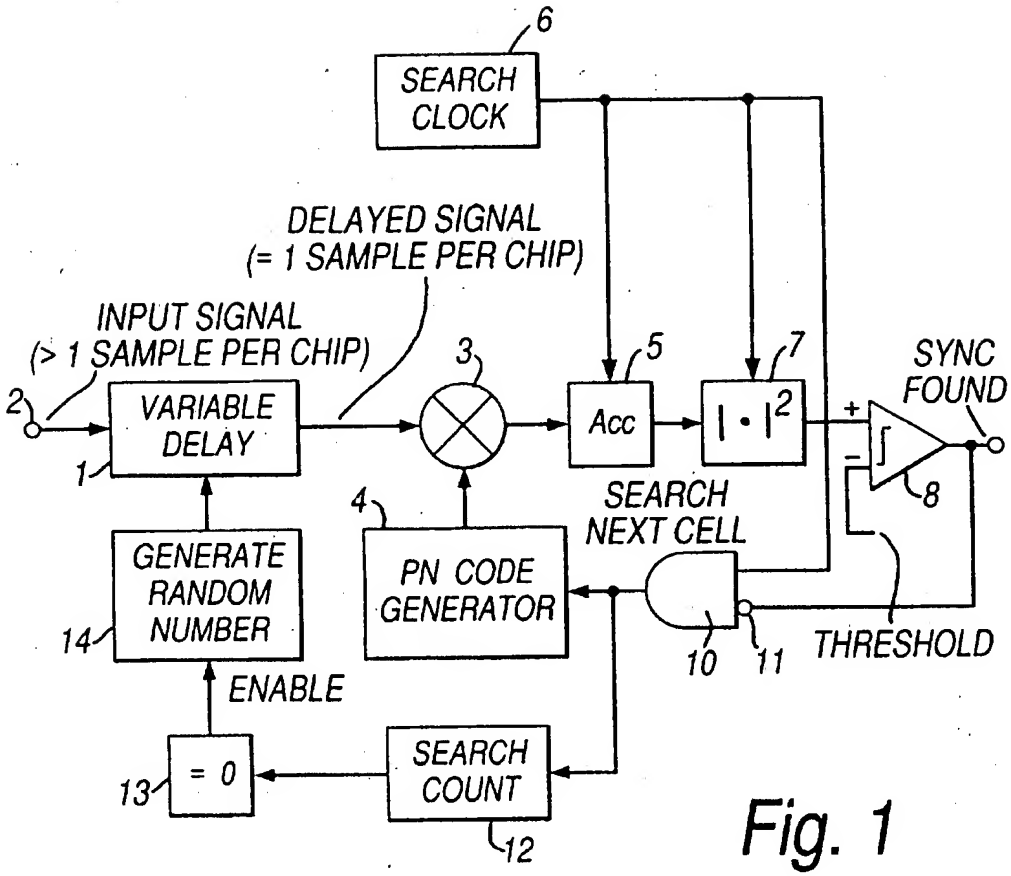
6
SEARCH CLOCK
DELAYED SIGNAL (= 1 SAMPLE PER CHIP)
INPUT SIGNAL (> 1 SAMPLE PER CHIP)
2
VARIABLE DELAY
1
3
5
Acc
7
$|\cdot|^2$
SYNC FOUND
+
−
8
4
SEARCH NEXT CELL
GENERATE RANDOM NUMBER
14
PN CODE GENERATOR
10
11
THRESHOLD
ENABLE
13
= 0
SEARCH COUNT
12

Fig. 1

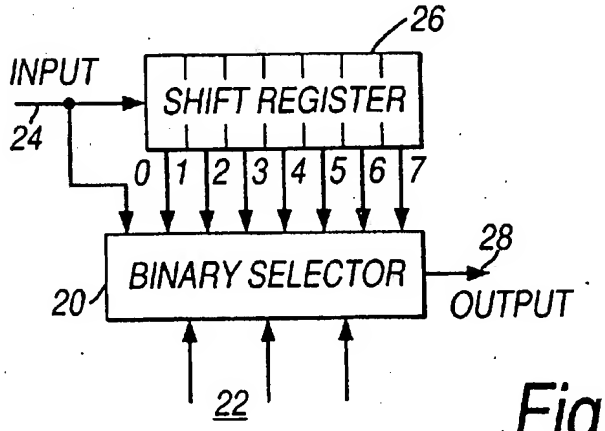
26
INPUT
24
SHIFT REGISTER
0 1 2 3 4 5 6 7
28
20
BINARY SELECTOR
OUTPUT
22

Fig. 2